

State of Electric Vehicles and EV infrastructure in Hawaii

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HCEI Transportation Goal

Reduce the use of petroleum in ground transportation by 70%
Approximately 385 Million Gallons Year by 2030. (Baseline approx 550 MGY)

Key Strategies

Focus pathways and “targets” have been identified to meeting the HCEI 70% clean energy objective for transportation. They are not market projections.

- 40% (150 MGY) Expand the use of renewable fuels for transportation
- 30% (120 MGY) Improve the efficiency of the standard vehicle fleet
- **20% (75 MGY) Accelerate the deployment of EV /related infrastructure**
 - By 2015, annual sales 4,000 and total market penetration 10,000
- 10% (40 MGY) Reduce the overall number of vehicle miles traveled

EVs in Hawaii

Opportunities

- + Potential to become international showcase
- + Ideal market characteristics
- + Favorable policies
- + Synergies with tourism industry
- + Connection to smart grid and renewables

Challenges

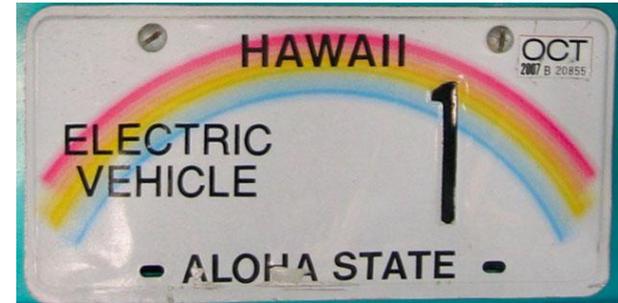
- Higher vehicle cost/turnover
- Establishing home and public charging: costs associated
- Public education and outreach



Transportation / EV Factoids

- Ground transportation accounts for 30% of liquid fuel use in Hawaii
- 995,790 total vehicles on the road in Hawaii. 35,531 sold in 2011
- 704 EVs on the road today in Hawaii
- Since 1/1/2011 – 545 EVs have been sold. 390 have received rebates
- HI nation's leader on a per-capita basis for public EV charging availability. By 8/12, one charging station for every 5,500 residents.
- Automakers targeting Hawaii
 - Nissan launched Leaf early 2011
 - Mitsubishi launched I late 2011
 - Chevy launched Volt late 2011
 - Toyota targeting launch of Plug in Prius 2012
 - Ford targeting launch of Focus EV 2012

Hawaii Leading on EV Legislation



1997, Act 290 EV license plates , HOV lane, free parking

- ✓SB2746 Codifies certain provisions of Act 290,
- ✓Exempts EVs from parking fees under certain conditions.

2009, Act 156 EV parking stalls in large lots with public parking

- ✓SB2747 Clarifies the EV parking requirement. Allows an EV parking space with a charging system to be located anywhere in the parking lot or structure.

2010, Act 186, HRS 196–7.5 chargers at multi–family housing

- ✓Residents of multi–unit dwellings (condos, townhouse etc.) may install EV charger

\$5 Million ARRA to Hawaii EV Ready Program

- **\$1.9 Million: EV Ready Rebates**
 - \$4,500 rebate per EV, \$500 rebate per Charger
 - 390 EV rebates as of 3/30/12.
 - 265 EV charger rebates as of 3/30/12
 - As of April 2, 2012, \$300,256.71 remaining
 - Program runs through Nov. 1 or while funds last, whichever comes first
- **\$2.6 Million: EV Ready Grants**
 - Integrated EV system deployment projects
- **\$475,500 State EVs and chargers**
 - DAGs motor pool, DOH, DBEDT (10 Evs)
 - State Capitol, First Circuit Court, Kapolei Courts (11 L2)

EV Ready Grant Program

6 grants, backed by matching funds

~200 EV (L2) charging locations
~ 6 Fast charging locations } 80 locations statewide

- **Better Place**– Chargers installed across the state: 140 (L2) installed
- **AeroVironment** – Chargers installed across the state: 75 (L2), 6 (Fast) 6/30/12
- **GreenCar Hawaii**– Car sharing program with EVs
2(L2), installed, 2 additional chargers by 6/30/12
- **Plug in America**– EV Ready Guidebook for commercial charging station installations by 6/30/12
- **City and County of Honolulu**– Public chargers, online permitting system for residential charger installations, EVs for fleet.
8 (L2) installed by 8/30/12
- **County of Kauai**– Public charging stations, EVs for fleet, 5 (L2) installed now



EV Charging Station
 Number of Stalls at Location

EV FAST Charging Station
 Number of Stalls at Location

Hawaii's EV Charging Network



Hawaii's EV Charging Network

Oahu



 **EV Charging Station**
 Number of Stalls at Location

 **EV FAST Charging Station**
 Number of Stalls at Location



Hawaii EV Charging Station Location Database

electricvehicle.hawaii.gov

The database is updated, as private and public organizations add charging stations across Hawaii.

Accomplishments to Date

Hawaii EV Ready Program

- Rebates/Grants

Time of Use EV Rates

- HECO

EVs at Hawaii dealers

- Nissan Leaf,
- Mitsubishi I,
- Chevy Volt,
- Wheego,



Nissan & Mitsubishi MOU

EVs in rental car fleets

- Enterprise & GreenCar

Online permits for residential charger installs

- City and County Honolulu

Progressive EV Legislation

- Free parking, HOV lane access, EV stalls in large parking lots, condo EV owner rights

Maui – Japan– Smart Grid Project

US DOE Grant for EV planning

UH Maui College

Hawaii State Energy Office

Honolulu Clean Cities

UC San Diego

State Energy Office: Next Steps with EVs

- ▶ Focus on Fast Charging: facilitating EV fast charging network
- ▶ Facilitating EV charging station phone application/ website
- ▶ Facilitating the development of lessons learned EV report
- ▶ Coordinating with Maui Smart Grid and Maui EV Alliance Partners to facilitate the deployment of EVs on Maui

Thank you!
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211807 MERCURY AND RECHARGER IN PRIVATE GARAGE.

